CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-10-05-02** **Date: 07-10-2017**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub division, BBMP, Bangalore.
Project Name	:	Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.
Agency	:	Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.
Customer's Reference	:	BBMP/EE/BTP/WO/16/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-10-2017
Sample ID No	:	2017-10-05-02/01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	06-10-2017

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	3.06	–
2	Finess by Air permeablity method (m^2/kg, Min)	276.8	225m^2/kg, Min
3	Density (gm/cc)	3.21	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 03-11-2017

Lab ID	:	**CP-2017-10-05-02**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub division, BBMP, Bangalore.
Project Name	:	Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.
Agency	:	Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.
Customer's Reference	:	BBMP/EE/BTP/WO/16/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-10-2017
Sample ID No	:	2017-10-05-02/01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	06-10-2017

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm2	Not less than 37 N/mm^2
3	28 Days	56.5N/mm^2	Not less than 53 N/mm^2

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Quality Manager

****End of Report****

CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-10-05-02** **Date: 07-10-2017**
Customer	:	Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.
Address	:	Vidyaranyapura Sub division, BBMP, Bangalore.
Project Name	:	Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.
Agency	:	Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.
Customer Reference	:	BBMP/EE/BTP/WO/16/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-10-2017
Sample ID No	:	2017-10-05-02/02
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	05-10-2017

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	197	197	3.9	96.1	90-100
3	10 mm	2309	2506	50.1	49.9	25-55
4	4.75 mm	2300	4806	96.1	3.9	0-10
5	Pan	194	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-10-05-02** **Date: 07-10-2017**

Sample ID No : 2017-10-05-02/02

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	**12.4**	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	**11.4**	
3	Specific Gravity	**2.65**	_
4	Bulk Density(Loose) (Kg/l)	**1.52**	_
5	Bulk Density(Compacted) (Kg/l)	**1.53**	_
6	Water Absorption(%)	**0.21**	_
7	Aggregate crushing Value(%)	**22.4**	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	**23.5**	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-10-05-02** **Date: 07-10-2017**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.

Address : Vidyaranyapura Sub division, BBMP, Bangalore.

Project Name : Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.

Agency : Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.

Customer's Reference : BBMP/EE/BTP/WO/16/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 05-10-2017

Sample ID No : 2017-10-05-02/03

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 05-10-2017

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	90	90	9.0	91.0	90-100	90-100	90-100	95-100
3	2.36 mm	130	220	22.0	78.0	60-95	75-100	85-100	95-100
4	1.18 mm	104	324	32.4	67.6	30-70	55-90	75-100	90-100
5	600 micron	140	464	46.4	53.6	15-34	35-59	60-79	80-100
6	300 micron	240	704	70.4	29.6	5-20	8-30	12-40	15-50
7	150 micron	220	924	92.4	7.6	0-10	0-10	0-10	0-15
8	Pan	76	1000	100.0	0.0	---	---	---	---
Result :The tested Sample Conforms to Grading Zone II									

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-10-05-02** **Date: 07-10-2017**

Sample ID No : 2017-10-05-02/03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.89	_
2	Specific Gravity	2.57	_
3	Material finer than 75 micron(%)	5.5	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Authorized Signatory
Quality Manager

****End of Report****

CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-10-17-01** **Date: 19/10/2017**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.

Address : Vidyaranyapura Sub division, BBMP, Bangalore.

Project Name : Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.

Agency : Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.

Customer's Reference : BBMP/EE/BTP/WO/16/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-2017

Sample ID No : 2017-10-17-01/03

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/10/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M20	12/10/2017	19/10/2017	150.20 X 150.32 X 150.14	22578	8.276	410.9	18.2	17.8
2	PCC	M20	12/10/2017	19/10/2017	150.53 X 150.33 X 150.21	22629	8.288	396.0	17.5	
3	PCC	M20	12/10/2017	19/10/2017	150.11 X 150.53 X 150.22	22596	8.198	402.2	17.8	

Note:

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Quality Manager

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CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-10-17-01** **Date: 09/11/2017**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.

Address : Vidyaranyapura Sub division, BBMP, Bangalore.

Project Name : Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.

Agency : Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.

Customer's Reference : BBMP/EE/BTP/WO/16/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-2017

Sample ID No : 2017-10-17-01/04

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 09/11/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M20	12/10/2017	09/11/2017	150.30 X 150.24 X 150.21	22581	8.298	499.0	22.1	21.4
2	PCC	M20	12/10/2017	09/11/2017	150.11 X 150.14 X 150.15	22538	8.256	482.3	21.4	
3	PCC	M20	12/10/2017	09/11/2017	150.13 X 150.17 X 150.19	22545	8.232	466.7	20.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-10-17-01** **Date: 17/10/2017**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.

Address : Vidyaranyapura Sub division, BBMP, Bangalore.

Project Name : Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.

Agency : Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.

Customer's Reference : BBMP/EE/BTP/WO/16/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-2017

Sample ID No : 2017-10-17-01/01

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/10/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	10/10/2017	17/10/2017	150.11 X 150.32 X 150.54	22565	8.138	297.9	13.2	13.1
2	PCC	M15	10/10/2017	17/10/2017	150.22 X 150.76 X 150.11	22647	8.230	301.2	13.3	
3	PCC	M15	10/10/2017	17/10/2017	150.13 X 150.21 X 150.44	22551	8.330	290.9	12.9	

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CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-10-17-01** **Date: 07/11/2017**

Customer : Assistant Executive Engineer, Vidyaranyapura Sub division, BBMP, Bangalore.

Address : Vidyaranyapura Sub division, BBMP, Bangalore.

Project Name : Providing missing covering slab at Muneshwara block, Vemanna Layout and Kallappa Layout in Ward no.10 (Doddabommasandra) Vidyaranyapura Sub division.

Agency : Sri. Narasimharaju.K, No.176, %th cross, Maruthinagara, Bhadrappa Layout, Nagashettyhalli, Bangalore-560094.

Customer's Reference : BBMP/EE/BTP/WO/16/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 17-10-2017

Sample ID No : 2017-10-17-01/02

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/11/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	10/10/2017	07/11/2017	150.11 X 150.32 X 150.54	22565	8.138	374.6	16.6	16.9
2	PCC	M15	10/10/2017	07/11/2017	150.22 X 150.76 X 150.11	22647	8.230	391.8	17.3	
3	PCC	M15	10/10/2017	07/11/2017	150.13 X 150.21 X 150.44	22551	8.330	381.1	16.9	

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